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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/085,187	02/27/2002	Joseph A. Kwak	I-2-0203.4US	3548

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VOLPE AND KOENIG, P.C.
DEPT. ICC
UNITED PLAZA, SUITE 1600
30 SOUTH 17TH STREET
PHILADELPHIA, PA 19103

EXAMINER

RYMAN, DANIEL J

ART UNIT	PAPER NUMBER
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2665

DATE MAILED: 10/24/2003

8

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/085,187	Applicant(s) KWAK, JOSEPH A.	
	Examiner Daniel J. Ryman	Art Unit 2665	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 February 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 February 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>4-7</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "14" has been used to designate both an air interface and a network (see Fig. 1a; page 2, line 22; and page 3, lines 7-8). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.
2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "24" has been used to designate both an air interface and a network (see Fig. 1b; page 5, line 18; and page 5, line 25). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Information Disclosure Statement

3. The information disclosure statement filed 2/27/2002 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each U.S. and foreign patent; each publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

Specification

4. The disclosure is objected to because of the following informalities: on page 3, line 6 "AMC controller 12a" should be "AMC controller 12c".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claim 12 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. Claim 12 recites the limitation "the fast feedback channel" in line 1. There is insufficient antecedent basis for this limitation in the claim. For the purposes of prior art rejections, "the fast feedback channel" will be interpreted to read "a fast feedback channel".

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

9. Claims 1 and 7 are rejected under 35 U.S.C. 102(a) as being anticipated by Scheibel, Jr. et al (USPN 6,212,240).

Regarding claim 1, Scheibel discloses a method for adjusting data modulation at a subscriber unit (col. 2, lines 19-37), comprising: receiving data at a transmitter for transmission (col. 2, lines 19-37); formatting the received data into packets for transmission (col. 2, lines 19-37), each packet having a particular type of encoding/data modulation (col. 2, lines 19-37); transmitting the packets (col. 2, lines 19-37); monitoring a return channel for receipt of an acknowledgment for each packet that that packet has been received (col. 2, lines 19-37);

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retransmitting a packet at the transmitter, if an acknowledgment for that packet has not been received (col. 2, lines 19-37); collecting retransmission statistics (col. 2, lines 19-37); and adjusting each particular encoding/data modulation using the collected retransmission statistics (col. 2, lines 19-37).

Regarding claim 7, Scheibel discloses a method for adjusting data modulation at a subscriber (col. 2, lines 19-37), comprising: formatting data into packets for transmission over a wireless air interface (col. 2, lines 19-37); receiving packets of data over said air interface (col. 2, lines 19-37), each packet having a particular encoding/data modulation (col. 2, lines 19-37); for each received packet, generating and transmitting a positive acknowledgment at the physical layer of said air interface when a received packet has an acceptable error rate (col. 2, lines 19-37).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 2, 6, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scheibel, Jr. et al (USPN 6,212,240) as applied to claims 1 and 7 above, and further in view of Sayeed et al (USPN 5,828,677).

12. Regarding claim 2, referring to claim 1, Scheibel does not expressly disclose that the particular type of encoding/data modulation is forward error correction (FEC). Sayeed teaches, in a system for adaptive ARQ schemes, using FEC as a type of encoding/data modulation since

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FEC is very well known (col. 1, lines 42-50). It would have been obvious to one of ordinary skill in the art at the time of the invention to use FEC as a type of encoding/data modulation since FEC is a very well known encoding/data modulation scheme.

13. Regarding claims 6 and 9, referring to claims 1 and 7, Scheibel does not expressly disclose identifying a packet as having an unacceptable error rate responsive to receipt of a negative acknowledgment since Scheibel discloses using ACK (col. 4, lines 50-56). Sayeed teaches, in a system for adaptive ARQ schemes, using receipt of a NACK to indicate an unacceptable error rate since NACK signals indicate that a signal was received erroneously (col. 1, lines 42-61 and col. 2, lines 55-65). It would have been obvious to one of ordinary skill in the art at the time of the invention to identify a packet as having an unacceptable error rate responsive to receipt of a negative acknowledgment since NACK signals indicate that a signal was received erroneously.

14. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Scheibel, Jr. et al (USPN 6,212,240) in view of Sayeed et al (USPN 5,828,677) as applied to claim 2 above, and further in view of Barton et al (USPN 6,449,246).

15. Regarding claim 3, referring to claim 2, Scheibel in view of Sayeed does not expressly disclose that the packets are transmitted using an orthogonal frequency division multiple access (OFDMA) air interface and the FEC encoding/data modulation adjusting is performed in addition to selective nulling of subchannels in an OFDMA set. Barton teaches, in a wireless system employing FEC, that it is well known to null subchannels in an OFDM system in order to lower PAR (col. 8, line 64-col. 9, line 3 and col. 11, lines 34-38). It would have been obvious to one of ordinary skill in the art at the time of the invention to perform FEC encoding/data

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modulation adjusting in addition to selective nulling of subchannels in an OFDMA set in order to perform data correction (FEC) and lower PAR (selective nulling) in an OFDMA system.

16. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Scheibel, Jr. et al (USPN 6,212,240) as applied to claim 1 above, and further in view of Chow (USPN 6,064,692).

17. Regarding claim 4, referring to claim 1, Scheibel does not expressly disclose that the packets are transmitted using a single carrier having a frequency domain equalization (SC-FDE) air interface. Chow discloses, in a wireless transmission system using FEC, that frequency domain equalization is used to equalize the phase and attenuation over the various frequencies (col. 2, lines 4-18). It would have been obvious to one of ordinary skill in the art at the time of the invention to use a single carrier having a frequency domain equalization (SC-FDE) air interface since frequency domain equalization is well known in order to equalize the phase and attenuation over the various frequencies.

18. Claims 5 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scheibel, Jr. et al (USPN 6,212,240) as applied to claims 1 and 7 above, and further in view of Chen (USPN 5,982,760).

19. Regarding claims 5 and 8, referring to claims 1 and 7, Scheibel does not expressly disclose that the return channel is a fast feedback channel when the packets are transmitted using a code division multiple access (CDMA) air interface. Chen teaches, in a wireless system, that CDMA contains a fast feedback channel on which return messages are transmitted where the return channel has high bandwidth or low delay (col. 2, lines 52-57 and col. 4, lines 54-57). It would have been obvious to one of ordinary skill in the art at the time of the invention to have

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the return channel be a fast feedback channel in a CDMA system since fast feedback channels are well known as means to have low delay or high bandwidth on the return channel.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Ryman whose telephone number is (703)305-6970. The examiner can normally be reached on Mon.-Fri. 7:00-5:00 with every other Friday off.

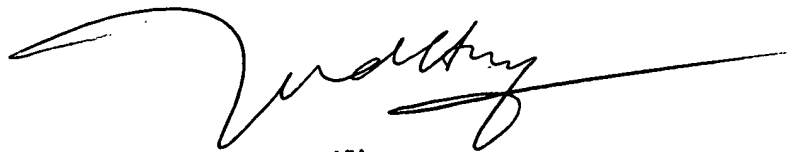
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (703)308-6602. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-3900.

Daniel J. Ryman
Examiner
Art Unit 2665

DJR

Daniel J. Ryman



HUY D. VU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600